

Health Service Research

# GPs' adherence to guidelines for structured assessments of stroke survivors in the community and care homes

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## Abstract

**Background.** Clinical practice guidelines recommend that stroke survivors' needs be assessed at regular intervals after stroke. The extent to which GPs comply with national guidance particularly for patients in care homes who have greatest clinical complexity is unknown.

**Objectives.** This study aimed to establish the current clinical practice in the UK of needs assessment by GPs for stroke survivors after hospital discharge for acute stroke.

**Methods.** Cross-sectional online survey of current practice of GPs, using the national [doctors.net](http://doctors.net) network.

**Results.** The survey was completed by 300 GPs who had on average been working for 14 years. The structured assessment of stroke survivors' needs was not offered by 31% of GPs, with no significant difference for level of provision in community or care home settings. The outputs of reviews were added to patients' notes by 89% of GPs and used to change management by 57%. Only half the GPs reported integrating the information obtained into care plans and only a quarter of GPs had a protocol for follow-up of identified needs. Analysis of free-text comments indicated that patients in some care homes may receive more regular and structured reviews.

**Conclusions.** This survey suggests that at least one-third of GPs provide no formal review of the needs of stroke patients and that in only a minority are identified needs addressed in a structured way. Standardization is required for what is included in reviews and how needs are being identified and met.

**Key words:** General practitioners, nursing homes, primary health care, stroke.

## Introduction

Stroke is the leading cause of adult onset neurological disability (1), and it is estimated that there are >1.1 million stroke survivors living in the UK (2). Between 5% and 15% of patients are discharged from acute care after stroke into care homes as a result of an increase in

needs arising from stroke-related deficit (3). Care home admission is predicted by age, cognitive impairment, depression, neuropsychiatric symptoms, severity of deficit and incontinence with admission rates increasing with time after initial ischaemic stroke (4,5). However, patients with significant disability after stroke can also be managed

at home (6), and therefore, GPs will be managing patients living with physical, cognitive and emotional disability burden after stroke and receiving different levels of support.

While patients living in care homes and the community after stroke often have substantial clinical complexity, routine medical care is predominantly provided by GPs. Regularity of clinical review in care homes is highly variable (7) with very little clinical input beyond generic care (8). Furthermore, where multiple services are provided to care home residents, the delivery of care is not well integrated, which limits cost-effectiveness and quality of care (9). Yet, stroke survivors and their caregivers have identified primary care as an appropriate source of support, provided that unmet needs are identified and further action taken (10).

Clinical practice guidelines aim to provide a framework for care, systematically supporting health care-related decision making (11). The National Clinical Guideline for Stroke published by the Intercollegiate Stroke Working Party and the National Institute for Health and Care Excellence (NICE) stroke rehabilitation guideline recommend structured reassessment of health and social care needs at 6 and 12 months and annually thereafter (3,12). However, it is unclear to what extent health care provided to stroke survivors complies with the guidelines, particularly in care homes where patients have more complex needs. While an annual review of vascular risk factors, medication and influenza vaccine status is included in the primary care quality and outcomes framework (QoF) after stroke, the most recent Sentinel Stroke National Audit Programme (SSNAP) data indicate that only 16.5% of eligible stroke survivors receive a 6-month assessment (13). While no GPs carried out reviews at 6 months after stroke in the SSNAP data, the role of primary care in reviews undertaken at later time points is unknown. Importantly, we know that half of stroke survivors report unmet needs, including lack of stroke-related information (14), and therefore structured reviews have the potential to improve the quality of care provided after the first 6 months post-stroke.

Inconsistent adherence to guidelines may be explained by variation in awareness, familiarity, agreement and external barriers to undertake the recommendations (15). The awareness-to-adherence model (16) suggests that in order to adhere to clinical guidelines, health care professionals first need to be aware of them, agree with the content and then choose to integrate recommendations into the care provided.

The aim of this study was to assess the extent to which the clinicians with primary responsibility for stroke survivors, GPs, are aware of and adhere to guidelines for structured assessment after stroke and potential reasons for any variation in adherence.

## Methods

### Survey development

Using the awareness-to-adherence model (16), as applied in previous work on adherence to guidelines in primary care (17), a survey was developed for dissemination to GPs. This included demographic and practice information, GPs' awareness of guidelines recommending structured reviews, current practice about reviews, including if reviews were provided and how any existing reviews were developed and their content, and to what extent GPs agreed with statements about usefulness and cost-effectiveness of reviews. Whenever the GPs reported that reviews provided to those living in care homes and community dwellers differed, a free-text explanation was elicited. The survey was piloted with GPs prior to dissemination.

### Data collection

Based on prior guideline adherence methods in primary care (17), data were collected through an online professional network for UK doctors registered with the General Medical Council (GMC) ([Doctors.net.uk](http://Doctors.net.uk)). There are currently 58 000 GPs registered, which is more than 90% of all GPs registered with the GMC (18). We expected ~25% of GPs would be aware of guideline recommendations so a sample size of 300 GPs would allow us to estimate the population proportion with 95% confidence interval (CI) plus or minus 5%. A group of 600 regionally representative GPs (to account for non-response) was randomly selected and whenever they logged in to [Doctors.net.uk](http://Doctors.net.uk), a link for the survey was displayed on their homepage. The methodology employed by [Doctors.net.uk](http://Doctors.net.uk) ensures that the survey sample is representative of the 58 000 GPs registered with the GMC, based on the socio-demographic details the GPs provided when registering with the online network. Once the estimated sample of 300 respondents was achieved, the survey was closed. Inclusion criteria were currently practicing in the UK as a GP and providing care to stroke survivors residing in care homes.

### Data analysis

For quantitative data, proportions and 95% CIs were calculated for all responses. We assessed associations between responses and participants' characteristics using parametric and non-parametric tests (Mann-Whitney/Kruskal-Wallis for non-normal outcomes or outcomes in the ordinal scale). *P*-values were two tailed, and significance was set at 5%. Analysis was carried out in STATA/SE12.

For the free-text comments, data were collated and analysed as previously established for survey responses (19). In this study, the analyst (AMB) assigned codes to each comment to explain its meaning and coded extracts were further explored to derive themes from collected responses, using NVivo 10 software.

## Results

### Survey results

The survey was completed during May 2014 by 300 participants, of whom 69% were principals (GP partners) and had on average been working for 14 years. About one-third of the practices (30%) had fewer than 6000 patients. The majority of the GPs personally undertook the annual QoF review with the patients who had had a stroke (86%).

One-third of respondents (33%, 95% CI: 28–38%) were aware of recommendations for reviewing the needs of stroke survivors at regular intervals, and of these, 35% found this recommendation from NICE guidance on stroke rehabilitation, but 25% were not able to recall the source.

**Table 1** summarizes the results for stroke reviews. Just over half of the respondents (54%, 95% CI: 48–59%) provided regular reviews to all patients, while a small percentage of GPs provided reviews only to either those in care homes (7%) or to community dwellers (8%). A GP was involved in ~80% of all the reviews provided, with practice, community or district nurses mentioned by 70% of the respondents. The review contents were mainly defined based on clinical guidance (53%), although one-third of GPs were not aware of how they had been developed (34%). Once needs had been identified, they were mainly added to patient's notes (89%) and used to change medical management (57%), but were less frequently integrated into a care plan (48%), and seldom employed to obtain a profile and overall needs of the stroke survivor (13%). The majority of GPs (75%) did not have a protocol to follow up identified needs.

Almost all reviews included physical, emotional and social components (**Table 2**). Ability to perform activities of daily living,

**Table 1.** Main outcomes of the survey: percentage of stroke survivors who receive a review, professional providing the review and processes around review development and follow-up<sup>a</sup>

Outcome	N (%)
Review provided to stroke survivors	
Yes, provided to all stroke survivors	161 (54)
Yes, but only community dwellers	25 (8)
Yes, but only care homes residents	20 (7)
No, review is not provided	94 (31)
Professional providing the review <sup>b</sup>	
GP answering the survey	135 (73)
Another GP in the practice	57 (31)
Practice nurse	85 (46)
Community nurse or district nurse	87 (47)
Social care	41 (22)
Secondary care (e.g. hospital outpatients)	42 (23)
Third sector/voluntary organization (e.g., Stroke Association)	13 (7)
Other	9 (5)
Review development	
Based on clinical guidance	110 (53)
Adapted from other contexts	29 (14)
Health and social care team consensus	24 (12)
Don't know	70 (34)
Other	5 (2)
Data use	
Added to patient notes	183 (89)
Integrated into the care plan	99 (48)
Used to obtain a profile and overall needs of the stroke survivors	27 (13)
To change medical management	117 (57)
To guide further referrals	104 (50)
Other	2 (1)
Don't know	2 (1)
Protocol for follow-up of identified needs	
Yes	51 (25)
No	155 (75)

The survey was completed by 300 GPs registered with the General Medical Council during May 2014.

<sup>a</sup>Percentages might add up to more than 100 as several questions allowed multiple answers.

<sup>b</sup>These results refer to the provision of the review to community dwellers; results for those living in care homes are similar, except that for the care home more respondents indicated that a colleague with special interest in older people provided the review, and other professionals were also involved in the review, mainly care home staff. These differences were not significant.

continence, and nutrition and swallow were commonly reviewed. Other symptoms, such as fatigue (39%), were less likely to be assessed. The majority of GPs reported assessment of stroke survivors' mood and many also evaluated memory and general cognition. Social needs were in the most part neglected, with relationships/sex, leisure, exercise and work being seldom reviewed.

Finally, there were mixed attitudes towards reviews and only 36% of the respondents considered that the costs of providing a review were offset by their clinical utility (Table 3). We could not detect any significant associations between survey responses and characteristics of the participating GPs.

### Findings from the free-text analysis

Fifty GPs provided text comments about the differences between the needs assessment provided to community dwellers and institutionalized stroke survivors. The respondents reported that the frequency

**Table 2.** Physical, emotional and social areas covered by the reviews provided to stroke survivors

Outcome	N (%)
Physical needs	
Ability to perform activities of daily living	181 (88)
Ability to perform instrumental activities of daily living	8 (38)
Contenance	178 (86)
Pressure care	135 (66)
Pain	150 (73)
Fatigue/tiredness	80 (39)
Nutrition and swallow	176 (85)
Communication	163 (79)
Vision	85 (41)
Medicines/general health	179 (87)
Other (please specify)	8 (4)
Routine review of physical needs not undertaken	2 (1)
Emotional/cognitive needs	
Mood	185 (90)
Memory and general cognition	166 (81)
Other (please specify)	4 (2)
Routine review of emotional and cognitive needs not undertaken	6 (3)
Social needs	
Care needs	187 (91)
Carer well-being	135 (66)
Relationship/sex	43 (21)
Finances and benefits	48 (23)
Driving, travel and transport	79 (38)
Leisure, exercise and work	71 (34)
Other (please specify)	1 (0)
Routine review of social needs not undertaken	10 (5)

with which reviews are conducted depends on the setting, with patients in care homes receiving regular reviews, and reviews in the community being described as 'ad hoc' and 'opportunistic', instigated by the patient or the family.

...Usually higher need in care home already and being provided by staff there—more continuous monitoring and usually they would request review as soon as a problem/concern is identified (making it less likely to only identify any concerns/problems during a scheduled review). GP191

Who conducted the review also depended on the setting. In care homes, it was reported that reviews were conducted by doctors with staff input, but in the community, reviews may be conducted by other staff, including nurses or community matrons. Family input into care home reviews was not acknowledged.

Who does them often differs depending on whether they come to surgery, are in their own home, nursing home or residential home. GP57

A further difference was noted in the outcomes or provision of services following reviews. Payment offered by the Locally Enhanced Service (LES) appeared to be a motivating factor to conduct reviews in care homes and was also thought to result in better service provision for patients.

Local LES offers payment for care home residents being reviewed and assessed fully so they get more service [sic]. GP244

The content of the review was also considered to differ in each setting. There was a general perception among respondents that care homes had 'formalized', 'more structured' protocols that formed part of annual reviews, although one respondent said 'different

**Table 3.** GPs' attitudes towards reviews<sup>a</sup>

Question	Strongly disagree/ disagree, N (%)	Neither agree nor disagree, N (%)	Somewhat agree/ strongly agree, N (%)	Total, N (%)
Among health and social care professionals, there is awareness about the recommendation of reviewing the needs of stroke survivors at regular intervals	77 (26)	65 (21)	150 (50)	292 (97)
The review should be limited to stroke survivors with considerable disability	190 (63)	53 (18)	51 (17)	294 (98)
The information obtained with the review is useful for care planning	13 (4)	55 (18)	223 (74)	291 (96)
The costs of providing a review are offset by their clinical utility	60 (20)	105 (35)	108 (36)	273 (91)

<sup>a</sup>Percentages might not add up to 100 as the option 'Don't know' was also given to respondents.

homes do different things'. They reported that community reviews were more likely to focus on the patients' activities of daily living, social and health needs. For patients in the community, it was considered appropriate to also consult family members and that staff conducting reviews needed to ask more questions to obtain relevant information. They suggested that patients can be fearful that their symptoms might result in them being placed in a care home and as a result there was a risk of needs being unreported or overlooked.

...In the community these reviews can be more difficult as often both patients and carers can be reluctant to admit to certain difficulties in fear that they may need [sic] up in a care home rather than be kept at home. GP104

## Conclusions

From this survey of GPs, the structured assessment of needs after stroke is not being provided by primary care to all stroke survivors, either living in the community or in care homes. Only one-third of GPs were aware of recommendations to regularly assess stroke survivors' needs, and two-thirds reported provision of reviews to their patients. Where reviews are conducted, less than half of the GPs integrate results into a care plan and only one out of four GPs have an established protocol for acting upon identified needs. Findings from the free-text analysis indicated that patients in some care homes may be receiving more regular and structured reviews than those living in the community, although some GPs indicated that such assessments varied between care homes.

While two-thirds of GPs considered the review to be of clinical utility, only about a third agreed that the costs of providing a review were offset by their clinical utility. This is consistent with the results of a randomized trial comparing 6-month reviews with usual care, which found that although there were fewer hospital and care home days for patients receiving structured reviews, the total costs of health and social care were similar to those receiving usual care (20). In the free-text comments, GPs identified that additional resources are required for appropriate needs assessment including health care professional time, onward referrals, medication and need for monitoring. A recent qualitative study of GPs similarly found that lack of resources, both human and financial, partially explained the inability of some respondents to establish an empathetic relation with their patients (21).

Where reviews were undertaken, there were critical areas of need that were not routinely addressed. A minority of GPs included activity in the domains of social function, sex, leisure and work. This is important because social functioning is reported as a key determinant of quality of life in stroke survivors (22). Furthermore, >40% of

stroke survivors with a spouse report ongoing relationship difficulties including sexual dysfunction and the need for information and support about resuming sexual activity (23), and health care professionals are seen as the most appropriate source for this advice (24).

The strengths of this study are its regionally representative sample, recruited through the largest medical network in the UK. Methodological strengths include the use of free-text comments to provide clarification and further understanding of responses to closed questions as well as identifying new issues that may otherwise remain unexplored by questionnaires. However, as comments were not provided by all respondents they may not be generalizable, and indeed may only be completed by participants who hold strong views (19). Further limitations include the voluntary nature of the survey, which may mean that respondents who had an interest in needs assessment in stroke survivors chose to complete the survey. This aspect, along with the social desirability underlying self-reporting, might explain the discrepancy between our results and those obtained by the SSNAP (13).

Taken together, our results indicate variation in the provision of long-term health care to stroke survivors, living either in the community or in care homes. While the quality of acute stroke care has improved with a large evidence base supporting access to thrombolysis and rehabilitation by multidisciplinary expertise in stroke units, the evidence base for improving provision of interventions to improve outcomes in stroke survivors over the longer term is more limited. However, expert consensus embodied in guidelines recommends that long-term care needs after stroke be identified and then met via structured assessment (13,25). This strategy addresses the needs of individual patients and can highlight to commissioners if provision of services is inadequate to meet identified longer-term needs.

Structured assessments should identify the needs of stroke survivors and integrate different domains relevant for patients' quality of life and provide a protocol for following-up unmet need. Some tools have already been developed to assist the health care professional in this process, including the Greater Manchester Stroke Assessment Tool (GM-SAT) (26), which has proved to be feasible to administer in a community setting. Current high workload pressures in primary care may limit the extent to which GPs can deliver reviews, but assessment tools such as the GM-SAT can be delivered by other health care professionals, potentially by members of an outreach specialist team. In other long-term neurological conditions such as multiple sclerosis or Parkinson's disease, follow-up is specialist-led ensuring that complex needs are detected and met, and this care model may therefore be more appropriate for stroke survivors. However, stroke survivors are highly likely to have multiple long-term conditions that require monitoring and

therefore a holistic approach that integrates the totality of health reviews and needs assessment may be appropriate.

Standardization of what is included in the review and how unmet needs are addressed is needed. This will reduce unwarranted variation in long-term stroke care and identify local gaps in service provision for commissioners to address. Lack of awareness of current recommendations and over-reliance on pay for performance structures alone to deliver service changes in the current primary care contract are likely barriers to improvements in quality of care.

## Acknowledgements

Author contributions: DCGB and DSL designed and implemented the study and drafted a first version of the manuscript. AMB, MVM and CK analysed data, and all authors interpreted the data. All authors revised the manuscript critically, provided important intellectual content and approved its final version.

## Declaration

Funding: this project was funded by the National Institute for Health Research School for Primary Care Research (NIHR SPCR) Grant (ref. 229). DSL is supported by the NIHR Oxford Biomedical Research Centre and NIHR Oxford CLAHRC. The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health. The funding source had no role in study design; data collection, analysis and interpretation; and decision to submit the article for publication.

Ethical approval: University of Oxford Central University Research Ethics Committee (ref. MSD-IDREC-C1-2014-026).

Conflict of interest: none.

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